AMENDMENTS TO THE SPECIFICATION

At page 12, lines 9-11, please delete the entire sentence, and insert therefor the following sentence:

-- Transfecting or otherwise genetically modifying the epidermal basal cells is then done in vitro with one or more expression vector(s) containing at least one cDNA encoding a neurogenic transcription factor responsible for neural differentiation. Suitable cDNAs include the basic-helix-loop-helix activators, such as NeuroD1, NeuroD2, ASH1, and zinc-finger type activators, such as Zic3, and MyT1, or other cDNAs including bHLH and/or Zn-finger neurogenic genes. The transcription factors are preferably of human origin, but homologous, non-human counterparts can also be utilized in the invention. Sequences of such non-human counterparts of NeuroD1, NeuroD2, ASH1, Zic1, Zic3, and MyT1 are available from, for example, the GenBank database of NCBI (~~http://~~www.ncbi.nlm.nih.gov~~/~~). The neurogenic transcription factor gene(s) is operatively linked to a promoter of the expression vector, i.e., a transcriptional unit is formed from which the gene is transcribed, producing mRNA from which gene product is translated in the cell after gene delivery. Therefore, in accordance with the inventive method, expression of the neurogenic transcription factor(s) is preferably controlled by a constitutively expressed eukaryotic promoter, such as a cytomegalovirus (CMV) promoter.--.

E1

In the Abstract of the Disclosure, at page 43, lines 2-22, please delete the entire paragraph, and insert therefor the following paragraph:

-- Disclosed is an in vitro method of transdifferentiating an epidermal basal cell into a cell having one or more morphological, physiological and/or immunological features of a glial cell. Also disclosed are such transdifferentiated cells and cell cultures derived from them. A kit for converting, in vitro, epidermal basal cells into cells having one or more morphological, physiological and/or immunological features of a glial cell is also disclosed. ~~Disclosed is a method of transdifferentiating an epidermal basal cell into a cell having one or more morphological, physiological and/or immunological features of a neural progenitor, neuronal, or glial cell by~~

E2

~~culturing a proliferating epidermal basal cell population derived from the skin of a mammalian subject ; transfecting the cells, in vitro, with one or more eukaryotic expression vector(s) that contain at least one cDNA encoding a human neurogenic transcription factor, or homologous non-human counterpart, or active fragment(s) thereof, such as NeuroD1, NeuroD2, ASH1, Zic1, Zic3, or MyT1, such that at least one of the neurogenic transcription factor(s) is expressed in the cell; growing the cells in an in vitro growth medium in which is present at least one antisense oligonucleotide comprising a segment of a human MSX1 gene and/or human HES1 gene , or homologous non-human counterpart of either of these, thereby suppressing at least one negative regulator of neuronal differentiation; and the cells(s) are, optionally, further grown with a retinoid and at least one neurotrophin, such as BDNF, CNTF, PDGF, NGF, NT-3, NT-4, or sonic hedgehog, or a cytokine comprising IL-6. Also disclosed is a transdifferentiated cell of epidermal origin and cell cultures derived therefrom. In addition, methods of using the inventive transdifferentiated cell(s) and cell cultures to identify a novel nerve growth factor or to screen a potential chemotherapeutic agent by detecting the presence or absence of an effect, in vitro, on a morphological, physiological and/or molecular biological property of the transdifferentiated cell(s) are described, as is a method of using the transdifferentiated cell(s) and cell cultures to screen a potential chemotherapeutic agent to treat a nervous system disorder of genetic origin. A kit useful for practicing the methods is disclosed.~~ --